

Iain McCulloch

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ext. papers

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L-index

#	Paper	IF	Citations
470	A strong regioregularity effect in self-organizing conjugated polymer films and high-efficiency polythiophene:fullerene solar cells. <i>Nature Materials</i> , 2006 , 5, 197-203	27	2097
469	Liquid-crystalline semiconducting polymers with high charge-carrier mobility. <i>Nature Materials</i> , 2006 , 5, 328-33	27	1836
468	Materials and applications for large area electronics: solution-based approaches. <i>Chemical Reviews</i> , 2010 , 110, 3-24	68.1	1510
467	Non-fullerene electron acceptors for use in organic solar cells. <i>Accounts of Chemical Research</i> , 2015 , 48, 2803-12	24.3	944
466	High-efficiency and air-stable P3HT-based polymer solar cells with a new non-fullerene acceptor. <i>Nature Communications</i> , 2016 , 7, 11585	17.4	903
465	Enhanced Mobility of Poly(3-hexylthiophene) Transistors by Spin-Coating from High-Boiling-Point Solvents. <i>Chemistry of Materials</i> , 2004 , 16, 4772-4776	9.6	811
464	Thieno[3,2-b]thiophene-diketopyrrolopyrrole-containing polymers for high-performance organic field-effect transistors and organic photovoltaic devices. <i>Journal of the American Chemical Society</i> , 2011 , 133, 3272-5	16.4	809
463	Reducing the efficiency-stability-cost gap of organic photovoltaics with highly efficient and stable small molecule acceptor ternary solar cells. <i>Nature Materials</i> , 2017 , 16, 363-369	27	807
462	Recent advances in the development of semiconducting DPP-containing polymers for transistor applications. <i>Advanced Materials</i> , 2013 , 25, 1859-80	24	711
461	Approaching disorder-free transport in high-mobility conjugated polymers. <i>Nature</i> , 2014 , 515, 384-8	50.4	692
460	Critical review of the molecular design progress in non-fullerene electron acceptors towards commercially viable organic solar cells. <i>Chemical Society Reviews</i> , 2019 , 48, 1596-1625	58.5	617
459	Charge carrier formation in polythiophene/fullerene blend films studied by transient absorption spectroscopy. <i>Journal of the American Chemical Society</i> , 2008 , 130, 3030-42	16.4	576
458	High-performance ambipolar diketopyrrolopyrrole-thieno[3,2-b]thiophene copolymer field-effect transistors with balanced hole and electron mobilities. <i>Advanced Materials</i> , 2012 , 24, 647-52	24	488
457	Influence of blend microstructure on bulk heterojunction organic photovoltaic performance. <i>Chemical Society Reviews</i> , 2011 , 40, 1185-99	58.5	463
456	Indacenodithiophene semiconducting polymers for high-performance, air-stable transistors. <i>Journal of the American Chemical Society</i> , 2010 , 132, 11437-9	16.4	463
455	Reduced voltage losses yield 10% efficient fullerene free organic solar cells with >1 V open circuit voltages. <i>Energy and Environmental Science</i> , 2016 , 9, 3783-3793	35.4	425
454	A rhodanine flanked nonfullerene acceptor for solution-processed organic photovoltaics. <i>Journal of the American Chemical Society</i> , 2015 , 137, 898-904	16.4	407

453	17% Efficient Organic Solar Cells Based on Liquid Exfoliated WS as a Replacement for PEDOT:PSS. <i>Advanced Materials</i> , 2019 , 31, e1902965	24	384
452	Molecular origin of high field-effect mobility in an indacenodithiophene-benzothiadiazole copolymer. <i>Nature Communications</i> , 2013 , 4, 2238	17.4	384
451	Semiconducting Thienothiophene Copolymers: Design, Synthesis, Morphology, and Performance in Thin-Film Organic Transistors. <i>Advanced Materials</i> , 2009 , 21, 1091-1109	24	382
450	Bimolecular Crystals of Fullerenes in Conjugated Polymers and the Implications of Molecular Mixing for Solar Cells. <i>Advanced Functional Materials</i> , 2009 , 19, 1173-1179	15.6	373
449	Recent Progress in High-Mobility Organic Transistors: A Reality Check. <i>Advanced Materials</i> , 2018 , 30, e1801079	24	358
448	Molecular packing of high-mobility diketo pyrrolo-pyrrole polymer semiconductors with branched alkyl side chains. <i>Journal of the American Chemical Society</i> , 2011 , 133, 15073-84	16.4	353
447	Recombination dynamics as a key determinant of open circuit voltage in organic bulk heterojunction solar cells: a comparison of four different donor polymers. <i>Advanced Materials</i> , 2010 , 22, 4987-92	24	343
446	Advances in Charge Carrier Mobilities of Semiconducting Polymers Used in Organic Transistors. <i>Chemistry of Materials</i> , 2014 , 26, 647-663	9.6	335
445	High-Performance Polymer-Small Molecule Blend Organic Transistors. <i>Advanced Materials</i> , 2009 , 21, 1166-1171	24	326
444	Stable polythiophene semiconductors incorporating thieno[2,3-b]thiophene. <i>Journal of the American Chemical Society</i> , 2005 , 127, 1078-9	16.4	321
443	Chalcogenophene comonomer comparison in small band gap diketopyrrolopyrrole-based conjugated polymers for high-performing field-effect transistors and organic solar cells. <i>Journal of the American Chemical Society</i> , 2015 , 137, 1314-21	16.4	317
442	X-ray scattering study of thin films of poly(2,5-bis(3-alkylthiophen-2-yl)thieno[3,2-b]thiophene). <i>Journal of the American Chemical Society</i> , 2007 , 129, 3226-37	16.4	317
441	Regioregular poly(3-hexyl)selenophene: a low band gap organic hole transporting polymer. <i>Chemical Communications</i> , 2007 , 5061-3	5.8	298
440	Critical Role of Side-Chain Attachment Density on the Order and Device Performance of Polythiophenes. <i>Macromolecules</i> , 2007 , 40, 7960-7965	5.5	297
439	Charge-Transport Anisotropy Due to Grain Boundaries in Directionally Crystallized Thin Films of Regioregular Poly(3-hexylthiophene). <i>Advanced Materials</i> , 2009 , 21, 1568-1572	24	286
438	High operational and environmental stability of high-mobility conjugated polymer field-effect transistors through the use of molecular additives. <i>Nature Materials</i> , 2017 , 16, 356-362	27	276
437	High Carrier Mobility Polythiophene Thin Films: Structure Determination by Experiment and Theory. <i>Advanced Materials</i> , 2007 , 19, 833-837	24	254
436	Controlling the mode of operation of organic transistors through side-chain engineering. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 12017-12022	11.5	251

435	Photocurrent enhancement from diketopyrrolopyrrole polymer solar cells through alkyl-chain branching point manipulation. <i>Journal of the American Chemical Society</i> , 2013 , 135, 11537-40	16.4	248
434	The role of the third component in ternary organic solar cells. <i>Nature Reviews Materials</i> , 2019 , 4, 229-242	73.3	244
433	Molecular-weight dependence of interchain polaron delocalization and exciton bandwidth in high-mobility conjugated polymers. <i>Physical Review B</i> , 2006 , 74,	3.3	244
432	Self-Assembled Monolayer Enables Hole Transport Layer-Free Organic Solar Cells with 18% Efficiency and Improved Operational Stability. <i>ACS Energy Letters</i> , 2020 , 5, 2935-2944	20.1	244
431	Conjugated Polymers in Bioelectronics. <i>Accounts of Chemical Research</i> , 2018 , 51, 1368-1376	24.3	235
430	Tuning the properties of polymer bulk heterojunction solar cells by adjusting fullerene size to control intercalation. <i>Nano Letters</i> , 2009 , 9, 4153-7	11.5	235
429	The Effect of Poly(3-hexylthiophene) Molecular Weight on Charge Transport and the Performance of Polymer:Fullerene Solar Cells. <i>Advanced Functional Materials</i> , 2008 , 18, 2373-2380	15.6	233
428	Exploring the origin of high optical absorption in conjugated polymers. <i>Nature Materials</i> , 2016 , 15, 746-537		233
427	Design of semiconducting indacenodithiophene polymers for high performance transistors and solar cells. <i>Accounts of Chemical Research</i> , 2012 , 45, 714-22	24.3	229
426	Competition between the charge transfer state and the singlet states of donor or acceptor limiting the efficiency in polymer:fullerene solar cells. <i>Journal of the American Chemical Society</i> , 2012 , 134, 685-92	16.4	219
425	Undoped polythiophene field-effect transistors with mobility of $1\text{ cm}^2\text{Vs}^{-1}$. <i>Applied Physics Letters</i> , 2007 , 91, 243512	3.4	210
424	A new thiophene substituted isoindigo based copolymer for high performance ambipolar transistors. <i>Chemical Communications</i> , 2012 , 48, 3939-41	5.8	208
423	The role of chemical design in the performance of organic semiconductors. <i>Nature Reviews Chemistry</i> , 2020 , 4, 66-77	34.6	205
422	Solution-processed small molecule-polymer blend organic thin-film transistors with hole mobility greater than $5\text{ cm}^2\text{Vs}^{-1}$. <i>Advanced Materials</i> , 2012 , 24, 2441-6	24	202
421	Effect of Fluorination on the Properties of a Donor-Acceptor Copolymer for Use in Photovoltaic Cells and Transistors. <i>Chemistry of Materials</i> , 2013 , 25, 277-285	9.6	201
420	Dynamics of Threshold Voltage Shifts in Organic and Amorphous Silicon Field-Effect Transistors. <i>Advanced Materials</i> , 2007 , 19, 2785-2789	24	201
419	High ambipolar and balanced carrier mobility in regioregular poly(3-hexylthiophene). <i>Applied Physics Letters</i> , 2004 , 85, 3890-3892	3.4	194
418	Molecular Design of Semiconducting Polymers for High-Performance Organic Electrochemical Transistors. <i>Journal of the American Chemical Society</i> , 2016 , 138, 10252-9	16.4	189

417	ORGANIC DEVICES. Avoid the kinks when measuring mobility. <i>Science</i> , 2016 , 352, 1521-2	33.3	181
416	Solution-processed organic transistors based on semiconducting blends. <i>Journal of Materials Chemistry</i> , 2010 , 20, 2562		181
415	Correlations between mechanical and electrical properties of polythiophenes. <i>ACS Nano</i> , 2010 , 4, 7538-46.7	46.7	178
414	High mobility ambipolar charge transport in polyselenophene conjugated polymers. <i>Advanced Materials</i> , 2010 , 22, 2371-5	24	172
413	Enhanced photocatalytic hydrogen evolution from organic semiconductor heterojunction nanoparticles. <i>Nature Materials</i> , 2020 , 19, 559-565	27	171
412	N-type organic electrochemical transistors with stability in water. <i>Nature Communications</i> , 2016 , 7, 13066	67.4	170
411	Silaindacenodithiophene-Based Low Band Gap Polymers □The Effect of Fluorine Substitution on Device Performances and Film Morphologies. <i>Advanced Functional Materials</i> , 2012 , 22, 1663-1670	15.6	170
410	On the energetic dependence of charge separation in low-band-gap polymer/fullerene blends. <i>Journal of the American Chemical Society</i> , 2012 , 134, 18189-92	16.4	160
409	Enhanced n-Doping Efficiency of a Naphthalenediimide-Based Copolymer through Polar Side Chains for Organic Thermoelectrics. <i>ACS Energy Letters</i> , 2018 , 3, 278-285	20.1	159
408	Burn-in Free Nonfullerene-Based Organic Solar Cells. <i>Advanced Energy Materials</i> , 2017 , 7, 1700770	21.8	156
407	Beyond the metal-insulator transition in polymer electrolyte gated polymer field-effect transistors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 11834-7	11.5	155
406	High performance ambient-air-stable FAPbI ₃ perovskite solar cells with molecule-passivated Ruddlesden-Popper/3D heterostructured film. <i>Energy and Environmental Science</i> , 2018 , 11, 3358-3366	35.4	154
405	Indacenodithiophene-co-benzothiadiazole Copolymers for High Performance Solar Cells or Transistors via Alkyl Chain Optimization. <i>Macromolecules</i> , 2011 , 44, 6649-6652	5.5	152
404	Anisotropy of Charge Transport in a Uniaxially Aligned and Chain-Extended, High-Mobility, Conjugated Polymer Semiconductor. <i>Advanced Functional Materials</i> , 2011 , 21, 932-940	15.6	150
403	Systematic improvement in charge carrier mobility of air stable triarylamine copolymers. <i>Journal of the American Chemical Society</i> , 2009 , 131, 10814-5	16.4	148
402	Studies of Highly Regioregular Poly(3-hexylselenophene) for Photovoltaic Applications. <i>Advanced Materials</i> , 2007 , 19, 4544-4547	24	147
401	Double doping of conjugated polymers with monomer molecular dopants. <i>Nature Materials</i> , 2019 , 18, 149-155	27	146
400	Controlling the orientation of terraced nanoscale "ribbons" of a poly(thiophene) semiconductor. <i>ACS Nano</i> , 2009 , 3, 780-7	16.7	145

399	Influence of Molecular Weight Distribution on the Gelation of P3HT and Its Impact on the Photovoltaic Performance. <i>Macromolecules</i> , 2009 , 42, 4661-4666	5.5	145
398	Thiophene and Selenophene Copolymers Incorporating Fluorinated Phenylene Units in the Main Chain: Synthesis, Characterization, and Application in Organic Field-Effect Transistors. <i>Chemistry of Materials</i> , 2005 , 17, 6567-6578	9.6	145
397	Robust nonfullerene solar cells approaching unity external quantum efficiency enabled by suppression of geminate recombination. <i>Nature Communications</i> , 2018 , 9, 2059	17.4	141
396	An Efficient, "Burn in" Free Organic Solar Cell Employing a Nonfullerene Electron Acceptor. <i>Advanced Materials</i> , 2017 , 29, 1701156	24	138
395	Recent advances in high mobility donor-acceptor semiconducting polymers. <i>Journal of Materials Chemistry</i> , 2012 , 22, 14803		131
394	Electrochemical doping in electrolyte-gated polymer transistors. <i>Journal of the American Chemical Society</i> , 2007 , 129, 14367-71	16.4	131
393	Correlating triplet yield, singlet oxygen generation and photochemical stability in polymer/fullerene blend films. <i>Chemical Communications</i> , 2013 , 49, 1291-3	5.8	125
392	Significant dependence of morphology and charge carrier mobility on substrate surface chemistry in high performance polythiophene semiconductor films. <i>Applied Physics Letters</i> , 2007 , 90, 062117	3.4	125
391	The Role of the Side Chain on the Performance of N-type Conjugated Polymers in Aqueous Electrolytes. <i>Chemistry of Materials</i> , 2018 , 30, 2945-2953	9.6	124
390	Silaindacenodithiophene Semiconducting Polymers for Efficient Solar Cells and High-Mobility Ambipolar Transistors. <i>Chemistry of Materials</i> , 2011 , 23, 768-770	9.6	120
389	Analyzing the efficiency, stability and cost potential for fullerene-free organic photovoltaics in one figure of merit. <i>Energy and Environmental Science</i> , 2018 , 11, 1355-1361	35.4	119
388	The influence of polymer purification on photovoltaic device performance of a series of indacenodithiophene donor polymers. <i>Advanced Materials</i> , 2013 , 25, 2029-34	24	119
387	Acceptor energy level control of charge photogeneration in organic donor/acceptor blends. <i>Journal of the American Chemical Society</i> , 2010 , 132, 12919-26	16.4	119
386	High mobility field-effect transistors with versatile processing from a small-molecule organic semiconductor. <i>Advanced Materials</i> , 2013 , 25, 4352-7	24	116
385	Direct metabolite detection with an n-type accumulation mode organic electrochemical transistor. <i>Science Advances</i> , 2018 , 4, eaat0911	14.3	114
384	A thieno[3,2-b][1]benzothiophene isoindigo building block for additive- and annealing-free high-performance polymer solar cells. <i>Advanced Materials</i> , 2015 , 27, 4702-7	24	113
383	Use of X-ray diffraction, molecular simulations, and spectroscopy to determine the molecular packing in a polymer-fullerene bimolecular crystal. <i>Advanced Materials</i> , 2012 , 24, 6071-9	24	113
382	Polymer Field-Effect Transistors Fabricated by the Sequential Gravure Printing of Polythiophene, Two Insulator Layers, and a Metal Ink Gate. <i>Advanced Functional Materials</i> , 2010 , 20, 239-246	15.6	113

381	Morphological stability and performance of polymer-fullerene solar cells under thermal stress: the impact of photoinduced PC60BM oligomerization. <i>ACS Nano</i> , 2014 , 8, 1297-308	16.7	111
380	Amorphous Tin Oxide as a Low-Temperature-Processed Electron-Transport Layer for Organic and Hybrid Perovskite Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 11828-11836	9.5	110
379	17.1% Efficient Single-Junction Organic Solar Cells Enabled by n-Type Doping of the Bulk-Heterojunction. <i>Advanced Science</i> , 2020 , 7, 1903419	13.6	110
378	Charge-Transfer State Dynamics Following Hole and Electron Transfer in Organic Photovoltaic Devices. <i>Journal of Physical Chemistry Letters</i> , 2013 , 4, 209-15	6.4	110
377	The Influence of Film Morphology in High-Mobility Small-Molecule:Polymer Blend Organic Transistors. <i>Advanced Functional Materials</i> , 2010 , 20, 2330-2337	15.6	110
376	Influence of Molecular Design on the Field-Effect Transistor Characteristics of Terthiophene Polymers. <i>Chemistry of Materials</i> , 2005 , 17, 1381-1385	9.6	110
375	The role of exciton lifetime for charge generation in organic solar cells at negligible energy-level offsets. <i>Nature Energy</i> , 2020 , 5, 711-719	62.3	110
374	P3HT: non-fullerene acceptor based large area, semi-transparent PV modules with power conversion efficiencies of 5%, processed by industrially scalable methods. <i>Energy and Environmental Science</i> , 2018 , 11, 2225-2234	35.4	108
373	Random benzotrithiophene-based donor-acceptor copolymers for efficient organic photovoltaic devices. <i>Chemical Communications</i> , 2012 , 48, 5832-4	5.8	108
372	Intrinsic efficiency limits in low-bandgap non-fullerene acceptor organic solar cells. <i>Nature Materials</i> , 2021 , 20, 378-384	27	108
371	The Effect of Interfacial Roughness on the Thin Film Morphology and Charge Transport of High-Performance Polythiophenes. <i>Advanced Functional Materials</i> , 2008 , 18, 742-750	15.6	107
370	Organic bulk heterojunction solar cells using poly(2,5-bis(3-tetradecylthiophen-2-yl)thieno[3,2,-b]thiophene). <i>Applied Physics Letters</i> , 2008 , 92, 113309	3.4	106
369	Organic photovoltaics: Crosslinking for optimal morphology and stability. <i>Materials Today</i> , 2015 , 18, 425-435	23.5	105
368	An electron beam evaporated TiO ₂ layer for high efficiency planar perovskite solar cells on flexible polyethylene terephthalate substrates. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 22824-22829	13	105
367	Thin-film morphology of inkjet-printed single-droplet organic transistors using polarized Raman spectroscopy: effect of blending TIPS-pentacene with insulating polymer. <i>ACS Nano</i> , 2011 , 5, 9824-35	16.7	105
366	Biofuel powered glucose detection in bodily fluids with an n-type conjugated polymer. <i>Nature Materials</i> , 2020 , 19, 456-463	27	105
365	Microwave-assisted synthesis of polythiophenes via the Stille coupling. <i>Synthetic Metals</i> , 2005 , 148, 195-208	1.8	104
364	A Novel Alkylated Indacenodithieno[3,2-b]thiophene-Based Polymer for High-Performance Field-Effect Transistors. <i>Advanced Materials</i> , 2016 , 28, 3922-7	24	100

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- 362 Molecular Basis of Mesophase Ordering in a Thiophene-Based Copolymer. *Macromolecules*, **2008**, 41, 5709-5715 5.5 97
- 361 The Physics of Small Molecule Acceptors for Efficient and Stable Bulk Heterojunction Solar Cells. *Advanced Energy Materials*, **2018**, 8, 1703298 21.8 96
- 360 Lamination method for the study of interfaces in polymeric thin film transistors. *Journal of the American Chemical Society*, **2004**, 126, 13928-9 16.4 96
- 359 Recent advances in transistor performance of polythiophenes. *Progress in Polymer Science*, **2013**, 38, 2053-2069 29.6 95
- 358 Progress and Challenges in Commercialization of Organic Electronics. *MRS Bulletin*, **2008**, 33, 653-662 3.2 95
- 357 Highly Efficient Patterning of Organic Single-Crystal Transistors from the Solution Phase. *Advanced Materials*, **2008**, 20, 4044-4048 24 93
- 356 Polaron Localization at Interfaces in High-Mobility Microcrystalline Conjugated Polymers. *Advanced Materials*, **2009**, 21, 3759-3763 24 92
- 355 Revealing buried interfaces to understand the origins of threshold voltage shifts in organic field-effect transistors. *Advanced Materials*, **2010**, 22, 5105-9 24 92
- 354 Polymerisable liquid crystalline organic semiconductors and their fabrication in organic field effect transistors. *Journal of Materials Chemistry*, **2003**, 13, 2436 92
- 353 Materials in Organic Electrochemical Transistors for Bioelectronic Applications: Past, Present, and Future. *Advanced Functional Materials*, **2019**, 29, 1807033 15.6 92
- 352 Fused electron deficient semiconducting polymers for air stable electron transport. *Nature Communications*, **2018**, 9, 416 17.4 91
- 351 Factors Governing Intercalation of Fullerenes and Other Small Molecules Between the Side Chains of Semiconducting Polymers Used in Solar Cells. *Advanced Energy Materials*, **2012**, 2, 1208-1217 21.8 90
- 350 Photovoltaic and field effect transistor performance of selenophene and thiophene diketopyrrolopyrrole co-polymers with dithienothiophene. *Journal of Materials Chemistry*, **2012**, 22, 12817 90
- 349 Ambipolar Field-Effect Transistors Based on Solution-Processable Blends of Thieno[2,3-b]thiophene Terthiophene Polymer and Methanofullerenes. *Advanced Materials*, **2005**, 17, 2608-2612 24 89
- 348 The Effect of Residual Palladium Catalyst Contamination on the Photocatalytic Hydrogen Evolution Activity of Conjugated Polymers. *Advanced Energy Materials*, **2018**, 8, 1802181 21.8 89
- 347 Side Chain Redistribution as a Strategy to Boost Organic Electrochemical Transistor Performance and Stability. *Advanced Materials*, **2020**, 32, e2002748 24 88
- 346 Effect of the End Group of Regioregular Poly(3-hexylthiophene) Polymers on the Performance of Polymer/Fullerene Solar Cells. *Journal of Physical Chemistry C*, **2007**, 111, 8137-8141 3.8 87

345	Long-range exciton diffusion in molecular non-fullerene acceptors. <i>Nature Communications</i> , 2020 , 11, 5220	17.4	87
344	Understanding the Influence of Morphology on Poly(3-hexylselenothiophene):PCBM Solar Cells. <i>Macromolecules</i> , 2010 , 43, 1169-1174	5.5	86
343	Polyterthiophenes as Donors for Polymer Solar Cells. <i>Advanced Functional Materials</i> , 2007 , 17, 1371-1376	5.6	86
342	Exploiting Ternary Blends for Improved Photostability in High-Efficiency Organic Solar Cells. <i>ACS Energy Letters</i> , 2020 , 5, 1371-1379	20.1	83
341	The first direct experimental comparison between the hugely contrasting properties of PEDOT and the all-sulfur analogue PEDTT by analogy with well-defined EDTPEDOT copolymers. <i>Journal of Materials Chemistry</i> , 2005 , 15, 4783		82
340	Influence of Water on the Performance of Organic Electrochemical Transistors. <i>Chemistry of Materials</i> , 2019 , 31, 927-937	9.6	82
339	Influence of crystallinity and energetics on charge separation in polymer-inorganic nanocomposite films for solar cells. <i>Scientific Reports</i> , 2013 , 3, 1531	4.9	81
338	Singlet Exciton Lifetimes in Conjugated Polymer Films for Organic Solar Cells. <i>Polymers</i> , 2016 , 8,	4.5	81
337	Enhancing fullerene-based solar cell lifetimes by addition of a fullerene dumbbell. <i>Angewandte Chemie - International Edition</i> , 2014 , 53, 12870-5	16.4	80
336	Conjugated Polymers: Reversible Electronic Solid-Solid Switching of a Conjugated Polymer (Adv. Sci. 2/2020). <i>Advanced Science</i> , 2020 , 7, 2070009	13.6	78
335	Relative importance of polaron activation and disorder on charge transport in high-mobility conjugated polymer field-effect transistors. <i>Physical Review B</i> , 2007 , 76,	3.3	78
334	Rapid single-molecule detection of COVID-19 and MERS antigens via nanobody-functionalized organic electrochemical transistors. <i>Nature Biomedical Engineering</i> , 2021 , 5, 666-677	19	78
333	Effect of fluorination of 2,1,3-benzothiadiazole. <i>Journal of Organic Chemistry</i> , 2015 , 80, 5045-8	4.2	77
332	Alkylidene Fluorene Liquid Crystalline Semiconducting Polymers for Organic Field Effect Transistor Devices. <i>Macromolecules</i> , 2004 , 37, 5250-5256	5.5	75
331	Highly Efficient and Reproducible Nonfullerene Solar Cells from Hydrocarbon Solvents. <i>ACS Energy Letters</i> , 2017 , 2, 1494-1500	20.1	74
330	Delineation of Thermodynamic and Kinetic Factors that Control Stability in Non-fullerene Organic Solar Cells. <i>Joule</i> , 2019 , 3, 1328-1348	27.8	74
329	Design and evaluation of conjugated polymers with polar side chains as electrode materials for electrochemical energy storage in aqueous electrolytes. <i>Energy and Environmental Science</i> , 2019 , 12, 1349-1357	35.4	74
328	2,1,3-Benzothiadiazole-5,6-dicarboxylic imide--a versatile building block for additive- and annealing-free processing of organic solar cells with efficiencies exceeding 8%. <i>Advanced Materials</i> , 2015 , 27, 948-53	24	72

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- 326 Progress in Poly (3-Hexylthiophene) Organic Solar Cells and the Influence of Its Molecular Weight on Device Performance. *Advanced Energy Materials*, **2018**, 8, 1801001 21.8 72
- 325 Synthesis and Exciton Dynamics of Donor-Orthogonal Acceptor Conjugated Polymers: Reducing the Singlet-Triplet Energy Gap. *Journal of the American Chemical Society*, **2017**, 139, 11073-11080 16.4 71
- 324 Thieno[3,2-b]thiophene-diketopyrrolopyrrole Containing Polymers for Inverted Solar Cells Devices with High Short Circuit Currents. *Advanced Functional Materials*, **2013**, 23, 5647-5654 15.6 71
- 323 A molecular interaction-diffusion framework for predicting organic solar cell stability. *Nature Materials*, **2021**, 20, 525-532 27 71
- 322 Balancing Ionic and Electronic Conduction for High-Performance Organic Electrochemical Transistors. *Advanced Functional Materials*, **2020**, 30, 1907657 15.6 70
- 321 The phase behavior of a polymer-fullerene bulk heterojunction system that contains bimolecular crystals. *Journal of Polymer Science, Part B: Polymer Physics*, **2011**, 49, 499-503 2.6 70
- 320 Polymer:Nonfullerene Bulk Heterojunction Solar Cells with Exceptionally Low Recombination Rates. *Advanced Energy Materials*, **2017**, 7, 1701561 21.8 69
- 319 Microstructural origin of high mobility in high-performance poly(thieno-thiophene) thin-film transistors. *Advanced Materials*, **2010**, 22, 697-701 24 69
- 318 Effects of Confinement on Microstructure and Charge Transport in High Performance Semicrystalline Polymer Semiconductors. *Advanced Functional Materials*, **2013**, 23, 2091-2098 15.6 68
- 317 The Bulk Heterojunction in Organic Photovoltaic, Photodetector, and Photocatalytic Applications. *Advanced Materials*, **2020**, 32, e2001763 24 68
- 316 Role of the Anion on the Transport and Structure of Organic Mixed Conductors. *Advanced Functional Materials*, **2019**, 29, 1807034 15.6 68
- 315 Influence of Blend Morphology and Energetics on Charge Separation and Recombination Dynamics in Organic Solar Cells Incorporating a Nonfullerene Acceptor. *Advanced Functional Materials*, **2018**, 28, 1704389 15.6 68
- 314 Temperature-resilient solid-state organic artificial synapses for neuromorphic computing. *Science Advances*, **2020**, 6, 14.3 67
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